

Claims

- [c1] What is claimed is:
1. A dual component dentifrice composition providing enhanced whitening efficacy and minimal gingival irritation and tooth sensitivity, the composition being comprised of a separately maintained first aqueous dentifrice component containing a peroxide compound and an abrasive system compatible with the peroxide and a second aqueous dentifrice component containing a desensitizing compound and an abrasive incompatible with the peroxide compound whereby the components when mixed and combined for the first time and exposed to the surface of teeth, an enhanced whitening effect is rapidly obtained in the substantial absence of tooth sensitivity and gum irritation.
- A *a peroxide reactive dye*
- [c2] 2. The composition of claim 1 wherein the peroxide compound is hydrogen peroxide.
- [c3] 3. The composition of claim 1 wherein the peroxide compound is urea peroxide.
- [c4] 4. The composition of claim 1 wherein the peroxide compatible abrasive system is comprised on one or more calcium phosphate salts.
- [c5] 5. The composition of claim 4 wherein the calcium phosphate salt is calcium pyrophosphate.
- [c6] 6. The composition of claim 1 wherein the desensitizing compound is a potassium salt.
- [c7] 7. The composition of claim 6 wherein the potassium salt is potassium nitrate.
- [c8] 8. The composition of claim 1 wherein the pH of the second component dentifrice is adjusted with an alkali metal hydroxide or carbonate salt.
- [c9] 9. The composition of claim 1 wherein the concentration of peroxide compound present in the combined dentifrice components ranges from 3 to about 30% by weight.
- [c10] 10. The composition of claim 1 wherein the concentration of desensitizing

agent in the combined dentifrice components ranges from 3 to 10% by weight.

[c11] 11. The composition of claim 1 wherein a peroxide reactive dye is present in the second dentifrice component, whereby reaction of the peroxide in the first component with the dye present in the second component when the components are combined for use in tooth whitening causes the original dye color to fade, signaling to the user the exhaustion of the peroxide content and completion of the whitening treatment.

[c12] 12. The composition of claim 11 wherein the peroxide reactive dye is FD&C Green #3.

[c13] 13. The composition of claim 1 wherein the pH of the first peroxide component is in the range of about 4 to about 7 and the second component has a pH in the range of about 8 to about 13.

[c14] 14. The method for providing enhanced whitening efficacy and minimal gingival irritation and tooth sensitivity, the method comprising preparing a dual component composition comprised of a separately maintained first aqueous dentifrice component containing a peroxide compound and an abrasive system compatible with the peroxide and a second aqueous dentifrice component containing a desensitizing compound and an abrasive incompatible with the peroxide compound, mixing the components and contacting the mixed components with the surface of teeth whereby an enhanced whitening effect is rapidly obtained in the substantial absence of tooth sensitivity and gum irritation.

a peroxide reactive dye

[c15] 15. The method of claim 14 wherein the peroxide compound is hydrogen peroxide.

[c16] 16. The method of claim 14 wherein the peroxide compound is urea peroxide.

[c17] 17. The method of claim 14 wherein the abrasive system compatible with the peroxide is comprised of one or more calcium phosphate salts.

[c18] 18. The method of claim 17 wherein the calcium phosphate salt is calcium pyrophosphate.

- [c19] 19. The method of claim 14 wherein the desensitizing compound is a potassium salt.
- [c20] 20. The method of claim 19 wherein the potassium salt is potassium nitrate.
- [c21] 21. The method of claim 14 wherein the pH of the second component dentifrice is adjusted with an alkali metal hydroxide or carbonate salt.
- [c22] 22. The method of claim 14 wherein the concentration of peroxide compound present in the combined dentifrice components ranges from 3 to about 30% by weight.
- [c23] 23. The method of claim 14 wherein the concentration of desensitizing agent in the combined dentifrice components ranges from 3 to 10% by weight.
- [c24] 24. The method of claim 14 wherein a peroxide reactive dye is present in the second dentifrice component, whereby reaction upon mixing of the peroxide in the first component with the dye in the second component when the components are combined for tooth whitening causes the dye color to fade signaling the exhaustion of the peroxide content and completion of the whitening treatment.
- [c25] 25. The method of claim 24 wherein the reactive dye is FD&C Green #3.
- [c26] 26. The method of claim 14 wherein the first peroxide component has a pH in the range of about 4 to about 7, the second component has an pH in the range of about 8 to about 13.